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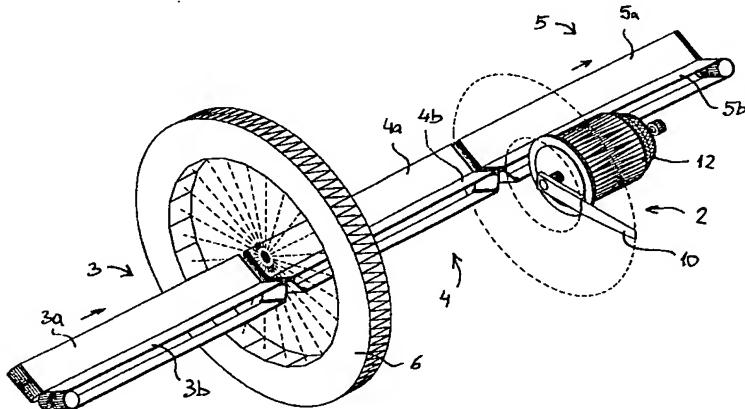
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(54) Title: APPARATUS FOR PORTION CUTTING OF FOOD PRODUCTS OR SIMILAR ITEMS



(57) Abstract: The present invention concerns an apparatus for portion cutting of products, such as food products (1), said apparatus comprising cutting means (2) for sectioning the products (1); scanning means (6) for detecting at least one characteristic of the product; conveying means (4) for transporting the product from the scanning means to the cutting means, and control means for controlling and regulating at least one relevant cutting process parameters in order to achieve predetermined product portions based on the detected product characteristics, wherein the conveying means comprises at least one conveyor unit (4) having two substantially parallel conveyors (4a; 4b) each having an upper conveying surface, said upper conveying surfaces being inclined relative to each other, so that the conveying surfaces of the conveyors have a mutual angle different from 180° in a traverse direction of the conveying direction. Hereby, a reliable portion cutting apparatus is provided wherein food items, such as pork, beef or fish, are handled gently and efficiently and it is ensured in a simple manner that the items are kept stationary relative to the conveyors during the processing of the items, and in particular may be sectioned into predetermined portions in a precise manner.

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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER
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B. FIELDS SEARCHEDMinimum documentation searched (classification system followed by classification symbols)
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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

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C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DK 9 600 164 U (NORFO AS) 12 September 1997 (1997-09-12) page 6 -page 9 ---	1-17
A	WO 01 32369 A (JENSEN ERIK STENDER ; NORFO AS (DK)) 10 May 2001 (2001-05-10) page 3, line 18 -page 5, line 26 ---	1-17
A	US 1 405 238 A (HARTE LOVELACE ROSEMAN EDWARD) 31 January 1922 (1922-01-31) page 1, line 52 - line 83 -----	1-17

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Information on patent family members

International Application No	
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Patent document cited in search report		Publication date		Patent family member(s)		Publication date
DK 9600164	U	12-09-1997	DK	9600164 U3		12-09-1997
WO 0132369	A	10-05-2001	DK	159699 A		05-05-2001
			AU	1131401 A		14-05-2001
			WO	0132369 A1		10-05-2001
			DK	200200640 A		29-04-2002
US 1405238	A	31-01-1922	FR	482603 A		
			GB	100656 A		

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